

COMPARISON OF ATSDR'S DRAFT PFAS TOXICOLOGICAL PROFILE AND OW'S HEALTH ADVISORY

	Draft ATSDR PFAS Toxicological Profile (2017) Completed peer review; currently in ATSDR clearance prior to release for final 60-day public comment period in November; final posting (TBD – spring 2018)	OW Health Advisories (Final 2016)
PFOA	Intermediate Duration (15 days – 1 yr) Neurodevelopmental effects/altered activity and skeletal alterations in mice offspring [Koskela et al. (2016); Onishchenko et al. (2011)] UF = 300 (LOAEL – 10, animal-human – 3, human variability – 10) Minimum Risk Level (MRL) = 3x10x-6 mg/kg-day	Short Term/Chronic Duration (weeks to months/lifetime) Reduced ossification in male and female mice pups and accelerated puberty in male pups [Lau et al. (2006)] UF = 300 (LOAEL – 10, animal-human – 3, human variability – 10) Reference Dose (RfD) = 2x10x-5 mg/kg-day [supported by immune system challenges (DeWitt et al. (2008) and kidney weight changes (Butenhoff et al., 2004a)]
WE	Intermediate Duration Delayed eye opening and decreased pup body weight during lactation in two-gen rats [Luebker et al. (2005a)] UF = 300 (animal-human – 3, human variability – 10, modifying factor for immunotoxicity concerns – 10) MRL = 2x10x-6 mg/kg-day	Short Term/Chronic Duration Decreased pup body weight in two-gen rats [Luebker et al. (2005a)] UF = 30 (animal-human – 3, human variability – 10) RfD = 2x10x-5 mg/kg-day [supported by same effect in one-gen rats in Luebker et al. (2005b) and neonatal neurodevelopmental effects (Butenhoff, 2009b)]
PFHxS	Intermediate Duration Thyroid follicular cell damage in rats [Butenhoff et al. (2009a); Hoberman and York (2003)] UF = 300 (animal-human – 3, human variability – 10, modifying factor for limited studies and immunotoxicity concerns – 10) MRL=2x10x-5 mg/kg-day	
PFNA	Intermediate Duration Decreased body weight gain and developmental delays in mice offspring [Das et al. (2015)] UF = 300 (animal-human – 3, human variability – 10, modifying factor for limited studies and immunotoxicity concerns – 10) MRL = 3 x10x-6 mg/kg-day	
NOTE: ATSDR states that there are insufficient data for derivation of chronic-duration oral MRLs for PFOA or PFOS given that immune function has not been studied following chronic exposure and intermediate duration studies identified immunotoxic effects as sensitive endpoints. In addition, there are insufficient data for derivation of a chronic-duration oral MRL for PFHxS or PFNA.		